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THE ART *of* RIGHT LIVING



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THE ART OF RIGHT LIVING

The Art of Right Living

By Ellen H. Richards

"It is not birth rates that want raising,
but Ideals."

MANKIND IN THE MAKING,
H. G. Wells



Whitcomb & Barrows
Boston, 1904

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Besides this appalling slaughter, three thousand to five thousand deaths annually in each large city, we have to consider what Mr. Wells aptly calls the partial death rate, "that dwarfing and limiting of an innumerable host of children who do, in an underfed and meager sort of way, survive." No other living thing is so weighted with the load of mere living as is the human being.

The loss in working power to the state is indicated by the undersize of the adults who have to suffer a handicap loss of from fifteen to twenty pounds in weight and three inches in height due to poor nutrition and unsanitary surroundings.

America is said to worship efficiency, but this worship has not included the human being, that self-developed machine whose "duty" is a thousand times more valuable than that of any man-made machine.

In these pages we shall consider the factors which go to make up the efficient human individual, and treat these factors also with reference to their development in school life, for it is to the formation of right habits in the child that we must look for improvement.

To the teachers of manual training and of domestic science we must look for help along these lines. Indeed, it may well be claimed that the latter subject especially has its justification in its golden opportunity to emphasize the fundamentals of wholesome living.

If, as is sometimes claimed, the scientifically trained man is to lead the world to better things, he must secure a suitable environment for himself. Therefore the attention of the more thoughtful throughout the country must be directed to the perfection of the human body as a machine.

Of the primal forces of all living matter, nutrition easily ranks first and affects the others most profoundly.

Nutrition The end and aim of nutrition is *energy*, force, power. The human body (the plant or animal as well) must make this for itself. It cannot be pumped in. Man is not a battery to be charged from outside, though he is an *automobile*.

Education is not complete unless all powers work together. Brain gymnastics are no more commendable than bodily gym-

nastics as mere exercises, and if one-sided are as fatal to all-around development.

The reasonable human being does not live for his body or his brain, but for all his forces working together for results. He is conscious of a sense of *responsibility* to the race, to the community in which he lives.

Production of energy is the object of life; direction of energy is another thing. But the healthy, happy person is not liable to be a criminal. Prisons and reformatories are filled with those whose twisted nerves and starved muscles mean knotted brains and troublesome, uncontrolled impulses.

We possess a body, a machine to use in accomplishing our ideals. If we do not learn to use it to the best advantage our ideals cannot be fulfilled.

The purpose of this human machine is to furnish energy for the mind to apply to its needs. The mind has no other source of energy, no supply station from which it can be pumped in.

The power at the service of body and soul must be manufactured within the body. To this end it needs care and training, food,

exercise, and sleep, as well as an environment which shall give it a fair chance.

There are two recognized ways of improving the quality of human beings: one by giving a better heredity—starting them in life with a stronger heart, better digestion, steadier nerves; the other, by so combining the factors of daily life that even a weak heart may grow strong, a poor digestion may become good, and frayed nerves gain steadiness.

The first method, however attractive in theory, is, in the present state of science, impracticable; but the second method of securing a more efficient human community is within our grasp if only each group of men would live up to the light now available. We are like wanderers in a dark corridor, dark only because we do not reach up and turn on the light. To refuse to live as well as we may because science cannot explain all the facts from which inferences are drawn is as foolish as for the same wanderers to ask: "Can you explain to us the nature of electricity? If not, then we refuse to use its light."

The *science* of right living has not yet

been worked out in all its details. Nevertheless, certain rules of practice are so well established that only obstinate or idiotic men have any excuse for denying their existence. History teaches the universality of the rule that the *art* is developed long before the science in any branch of applied knowledge.

The attempt made here is not to teach a system of ethics, but only to call attention to certain points in practical, every-day living which make for such improved conditions in environment as will permit a higher moral and intellectual development.

In the words of that prophet of the new republic, Mr. H. G. Wells, it is our duty "to secure an ideal environment for children in as many cases as possible."

These improved conditions include knowledge of the essential requirements of the growing child, safe water to drink, and plenty of it, good food, sleep, exercise, etc. The need of water is put first for two reasons: it is oftenest neglected and it is a fundamental need for all life. A certain dilution with water is a *sine qua non* of all the chemical changes which we associate with

growth. The fermentation of grape juice and the keeping qualities of grape jelly and of raisins are familiar examples. The extreme instability of milk and the greater permanence of butter and cheese illustrate the same thing. In concentrated solutions, biological action goes on with lessened vigor; in dry substances, with extreme slowness or not at all.

The practical lesson to be drawn from these well-known facts is that human beings as well as bacteria require plenty of water to dilute the blood stream constantly circulating through their tissues, if the millions of little living cells of which these tissues are composed are to thrive and do their work, by chemical changes converting into energy the food supply brought to them in solution by this blood stream.

Sluggish circulation means less power of work, of thought, of pleasure. The senses are dulled; life is a burden instead of a joy with a sense of power. But there is a more serious danger in this clogged condition. In the very nature of things, the load of this circulating current is easily decomposable material. Beef juice freshly prepared, milk

freshly drawn, are assimilated and give strength; allowed to stand in a warm place, putrefactive changes set in which cause them to become toxic. Persons taking them in that condition may suffer "ptomaine poisoning."

The fluids of the normal human body are so nicely balanced as to chemical proportions, that if they are perverted from their normal action by overloading, by reduced temperature, by unsuitable combinations, certain of these objectionable changes take place inside the body and auto-infection occurs. Most cases of acute indigestion and cholera morbus, as well as other less marked digestive disturbances, are due to inability of the secreted fluids of the body to take care of the material submitted to their action. The first place in this list of dangerous circumstances may well be given to lack of sufficient water to permit quick change and quick carrying away of useless material.

An attack of indigestion may often be relieved by taking a pint of hot water.

If the habit of drinking sufficient water is well established, there will be less danger of any sudden disturbance.

The danger of taking too much water is not great, for there are three ways of eliminating the unnecessary quantity: through the skin, the lungs, the kidneys. (Elimination by the skin is not enough considered in deciding upon the clothing.) The danger is less than in taking too little, because in the former case the regulating forces have a chance to act; in the latter, the call for more water is unheeded, often because not understood.

The problem of a safe water supply is, therefore, very closely linked with the essentials of wholesome living. This will be considered later.

The circulating fluids of the body carry food in solution to the living cells, hence the food eaten must be such that the secretions can convert it. Charcoal, although an excellent fuel in the grate, is not fuel for the human body, because it cannot be made into a usable form. Starch, sugar, and fat, on the other hand, can be so used, and therefore they are foods for man as well as for the fire. Cellulose, woody fiber found in all plants, serves as food for many animals, but in very slight degree for man.

Physical Motion

Safe exercise comes next after safe water in a study of physical needs.

The necessity for fluidity in the circulating blood stream is not the only necessity. There must be a strong push to the current to keep it moving through the network of arteries, veins, and especially capillaries, those threadlike passages which are so easily clogged. Stagnation starves the cells which need food constantly.

This push is given by the heart pumping the blood with such force that it must find a passage. The heart is stimulated by exercise; the lungs are forced to carry a fuller, deeper tide of air, giving oxygen to develop more energy from the dissolved food.

Without exercise the blood stream flows gently. If the food is accurately balanced to the body's needs, the person may not suffer, but the least carelessness in diet is upsetting.

The need of physical motion in order to keep up that circulation which means growth and strength is seen in the infant and young child in constant motion in all their waking hours. Because of this neces-

sity children must not be kept to rigid positions for long periods even in school.

The call for oxygen is another note disregarded through ignorance and carelessness.

The child should learn to heed this call as much as any other. It is imperative that fresh air, not used-up, breathed-over-and-over-again air, should flow through the lungs.

The food can be converted into useful material *only* through combination with the oxygen of the air. The toxic substances earlier referred to are liable to be formed in greater or less degree if too little air is available.

Nothing will take the place of fresh air. It is one of the necessities of right living. The child should be taught to recognize stale air and to demand fresh air as he now demands a drink of water. Study rooms at home and in school must have better facilities than nine-tenths now have in order to lessen the "partial death rate."

The discovery that the dreaded white plague may be prevented and even cured, if taken in time, should certainly help teachers and parents to enforce rules of plenty of air,

to secure the coöperation of the children for their own benefit, and of taxpayers in the certainty of less expense for hospitals and funerals. I fully believe that if one-tenth the money now devoted to hospitals was spent in a crusade for better living conditions, most of the institutions within ten years would close for want of patients.

Simple devices in the ordinary house will serve if once the cardinal principle of circulation is taken to heart. Heated air rises, and since nearly all "bad" air is heated air, therefore let it out at the top of the space before it has a chance to vitiate the rest. It will mean a little more coal or warmer clothing, but an incalculable gain in health. Tight joints in all gas and plumbing fixtures are also indispensable. The sense of smell seems to be going the way of teeth and hair. Half the houses one enters reveal to the educated nose leaks of one or both gas and waste pipes. Dullness, stupidity, ill temper, headache, and a host of evils attributed to Providence or our ancestors, all are bred from our own ignorance of the simplest of nature's laws.

It is true that man is a part of nature, sub-

ject to nature's laws, but he has a power of control over himself and his natural environment, if only he will learn to use it, greater far than over other living things, for man has a spiritual nature capable of high ideals for himself, ideals which make self-control, foresight, and ambition possible; ideals which react on his bodily condition, stimulating or inhibiting physical reactions. He has power to set for himself a goal to strive for, to ask "What shall I make of myself?"

Hindrances to right living are mostly due to our thoughtless acceptance of tradition, or to the heedless rush of modern life.

From the study of plant and animal life we have come to have a glimmer of understanding of what life means. The plants all have a meaning and purpose, and only those that fulfill it best survive, the others are choked out in nature. The weak and useless have scant courtesy in nature's rule, but man may interfere, and by soil, water, and fertilizer can develop in a few years such results as nature unaided would show only in hundreds of years, which proves that we have gained partial control of life's secrets.

The American Beauty rose, the chrysan-

themum, and hundreds of beautiful flowers prove that the result may be more beauty of form and color but without production of seed, which is the general end of all natural life. So in the animal world, the evolution of the trotting horse, the production of various desired strains of color or form, prove that man has learned to obtain what he wishes to secure.

If by study and experiment man has discovered the laws of life to an extent shown by every agricultural experiment station in the country, should we not expect that he had learned how to develop himself? But, alas! from every civilized community comes the same cry — deterioration of the physique of the men desired for soldiers, of the maids in our houses, of girls in our colleges, of the general physical condition when tested by race standards.

One reason is plain — by our care in certain directions more weakly children and adults survive — to exist, but not to add to the social wealth of the community; but there must be some more deeply-seated cause than survival of the unfit births. If a plant is put into very rich soil and protected it

grows slender, with a weak stem and plenty of leaves, but bears no fruit. It cannot stand alone, but must be tied up, lest it fall to the ground and be trodden upon. An overfed animal soon becomes ill and an over-protected pet dog cannot bear the cold or wet.

In spite of all these lessons from plant and animal life, that life which we have learned to know as of the same general order as our own, we go on, careless of all the lessons, neglectful of all the conditions which might make us powerful in our own line.

There seems to be in us all the sort of self-righteousness exemplified in the old story of the Quaker who said, sighing, "Mary, the world is all queer but thee and me, and I sometimes think thee is a *little* queer."

We seem to have assimilated so deeply the idea that man is lord of all the earth, that we do not include man himself in the class over which he rules; we do not grasp the thought that man must be lord of himself also, if he is not to succumb to nature's rule in the end.

Now the great difference between man and beast is the power man has of looking forward, of preparing for the future, of imagination, of conscious preparation; but, alas, how little do we of this day use this power! When once we know the joy of control, we shall understand what man's dominion over nature means.

To master a fine horse, to drive an automobile, to sway an audience, is a recognized stimulant; to control oneself, to see one's own wishes developing, one's own power increasing, that also is wine to the spirit, and, if one's energies are directed in the right direction, a pleasure to all onlookers.

This joy of self-control should be taught to children. Control of *things* comes easily then; control of *self* comes with greater difficulty, but patiently taught does become habit. Our manual training instruction is doing much toward this. A boy must control his own muscles before he can move his tool as he wills.

A good cook is always calm and conscious of power, never fussy or flustered. It is consciousness of ability to secure results that makes her intolerant of weights and measures.

I trust we have somewhat clearly in mind a picture of the wonderful process of the production of energy within the human body — the ceaseless flow of the blood carrying food to the millions of cells, whose life makes our life, and bringing away the waste substance.

Eating We have now to bring into consideration certain points of intermittent activity. Eating, as a process of taking food, is one of them. The blood flows through its channels all the time; but the digestive organs, which have to manufacture new secretions to take the place of those used, must have time to do it in. Hence we should take food only at regular intervals, the time between the taking depending upon the character of the food, whether it digests in half an hour or requires five hours.

The demand of the body is an individual factor different from the *sinking feeling* in the stomach waiting for its load. The more fully the body has used its supply the louder this call.

Shall we take five meals or one meal in the twenty-four hours? That is, shall we

eat much or little at one sitting? The answer is another question: Which gives the more efficient life to the individual? This is the basis for decision.

Appetite is a healthy call, which we grown people have so restrained with our eye and taste objections and imaginings that it has practically left us. We frequently allow the looks of a dish or the shape of a dish to stop our eating of needed food.

This intermittent taking of food is to allow the recuperation of the secretory glands and to avoid overloading the blood stream—over-concentration of the blood in solution.

Sleep After a certain time the cells get worked out. There is a greater demand upon them than they can fill, and the demand must stop that they may catch up—and we go to sleep. This means relaxation of the muscles, which allows freer flow; release of nerve tissue, which opens wide some channels; and stoppage of most of the waste due to activity. It is a time of building up for the next day, and it is necessary to have this regularly, because man is not a machine for perpetual action, since his

living cells manufacture their own power. Some time must be given them in which to accomplish it in a satisfactory manner. They cannot work and recuperate at the same time.

Sleep permits this re-creation of power and force by the cessation of voluntary motion, giving a sufficient time for rebuilding the torn-down tissues. The brain cells, like all others, need rest, but so obedient are they to stimulus that they go on and on after we wish them to stop work, like the anxious mother unconvinced that tomorrow will serve just as well for the child's new dress or special cake.

But it is easy to see that there is great need of oxygen in this process, and that plenty of fresh air at night is essential. Fear of night air has sent most of the consumptives to their graves.

It is of the utmost importance to establish correct habits of sleeping in the child. Sound, restful sleep from which one awakens to joy in living is the essential thing, whether the result is obtained after seven, eight, or nine hours. Restless nights, terrifying dreams, do not permit that full repair

of worked out tissues which means efficient living.

The disturbance of digestion caused by wrong food, the over-stimulation of the brain by bad air, by excitement, by worry, or by fear, or *even just plain habit carelessly formed*, all are responsible in varying degrees for lack of recuperative sleep. Of these probably the most difficult to remedy is habit. Some change of thought or surroundings is necessary to break a person of lying awake or of waking at undesirable hours. If it is once realized that sleep is an essential part of right living every sane person will take care to secure good habits and right conditions. Dr. Sargent's advice is "to cultivate the habit of sleeping, independently of circumstances."

Amusement Hurry and worry are the greatest hindrances to nutrition and recuperation. The cheerfulness of health, the happy, non-careworn life, is worth striving for. Amusements, going to the play, to the concert, to a pleasant party, give rest to the overworked nerves. Therefore our amusements should be planned to give this

rest. We should form habits of furnishing suitable amusement to the children and to ourselves, only we must not lose sight of the aim of life and substitute amusement for work. Some of us find greater pleasure in other work, some in absolute rest. Change is beneficial, if only a meal at a neighbor's or at a restaurant now and then. It is a good rule to dine out once a week, since variety in food is a sort of amusement. Re-creation must also be favored by change of thought, by amusements, as we term the brain-resting class of occupations. The value of really entertaining performances is incalculable.

Stimulus to heart action is found in laughter, to exercise in good company. Who has not, unconsciously, walked miles with an entertaining friend?

Most important of all is the removal of disturbing watch over functions which go on much better unnoticed. Like children, these primitive processes are apt to become troublesome in proportion to the attention bestowed on them.

Eighty per cent of the so-called amusements are not recreations. They exhaust

more rapidly than they refresh. This touchstone of efficiency should be applied by adults to themselves and by guardians to the effect of entertainments upon children. Momentary excitement is not recuperation, remaking of nervous tissue.

Exercise After a time of repair, as in sleep or in sedentary amusements, the waste which results from all living processes must be gotten rid of. A brisk exercise, or bath, or massage is needed to start again the quick flow, to expel the CO_2 which has collected, and to cause the full tide of breathing—to shake out the ashes, as it were, from the human furnace so that the fuel may give energy.

For this purpose the exercise need not be long continued, but should be sufficiently brisk to send the current of blood through all the fine capillaries and the tide of air to the deepest lung cells. Until this clearance of the choked passage has taken place only a light meal should be eaten, for the forces of bodily activity are rarely sufficient for two things at once.

A long walk once a week cannot take the place of brisk daily exercise.

Work We have referred several times to mental influence over nutrition, and we come now to an important adjunct in the art of right living—joy in work, the taking the mind off the drudgery of life.

The daily work should not be drudgery, but most of us seem not to have found the right work, and the monotony of the daily round becomes *deadly*.

I am sorry for such, as I am sorry for those to whom food becomes monotonous, so that they must have something different—cannot eat the same thing twice in succession. If one sees before him all the kinds of food there are at one meal, there is nothing left for the next. This gratifies the mental desire for choice, but close observers say that after scanning a bill of fare a foot long they usually take the same things day after day.

This craving for the new is strongest in those who are not satisfied with their daily work; but for all of us it is well to *forget ourselves* and our worries.

We cannot too strongly impress upon the child how important to health is work, remunerative action; not necessarily remu-

nerative in coin of the realm, but in satisfaction with one's life. Work is necessary in order to enjoy recreation. It is a law of life, bringing dire disaster in the breaking. Many so-called amusements are hard work, and much, very much of the work of the world is or may be so interesting as to be really recreation, if not too long continued.

Perhaps we are not furnished with a *science* of work, but we must accept work as a part of the art of right living. In our hearts we know that work is the mainspring of existence, that it furnishes the motive power for effort.

The delight in life is what we can do with it. A sense of power over things is one of the most human attributes. It is the source of both good and evil; evil when used to oppress other human beings, good when it gives man a control which he utilizes to give happiness and satisfaction to his fellowman.

It is a want of this feeling of conscious power which is largely accountable for the degeneration of the wage-earner of today. He is, for the most part, unskilled. That

is, he cannot do well the thing he undertakes. He has power neither over his tools, his materials, nor his own muscles.

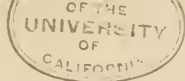
This inner sense of ineffectiveness is the unrecognized cause of the restless discontent so prevalent today. No person who is accomplishing something, seeing it grow under his hands to what it was in his thought, is discontented. It is a mistake to think that the fact of making the article for some one else and not for oneself is the cause of dissatisfaction. The true pleasure of work is in the doing and not in the possession afterwards, in most cases. We have lost pride in our work and have transferred our distaste for poor work to work itself, to the great danger of our physical and moral health.

Teachers need to study the psychology of work, to utilize the natural desire of children for effective movements. It is a sign not to be neglected that every child tries to express his thoughts in making things. Of course his attempts are crude, but the necessity is there.

There is probably no better way to begin a child's training for right living than to

give him a garden indoors or out. The care of a garden bed combines exercise, amusement, and work to a degree not attained by anything else. It adds indirect instruction in the essentials of all life, and initiates the child into the mysteries of living.

There is a fallacy in the statement that the chief incentive to work is usually possession of things. It is claimed that civilization is increase of wants, and that the greatest incentive to work which the adult recognizes is discontent with present possessions. He works to secure what he hopes will give him that sense of satisfaction which we call contentment, a sense which a man rarely attains. It is like the bundle of hay dangling from the wagon top just ahead of the horse's nose, ever almost within his reach but never attainable. Therefore we seem driven to the conclusion that we must look, each for himself, the situation squarely in the face and decide the nearest approach to the ideal attainable, all things considered, and having set that standard to hold by it until another step is possible. If the horse is so blinded



by eagerness to reach the hay that he steps off a precipice and falls, load and all, to the bottom, of what avail is it?

Pleasure in work lessens expense of living more than any other single thing. Exercise properly taken means a keener appetite and permits less expensive food. A simpler life is possible when mere living is a pleasure.

Pleasure In close connection with the psychology of work lies a bit of the philosophy of pleasure.

The young stargazer is astonished to find that his keenest vision is not directly in front, at the point toward which he is looking, but a little to one side. For instance, sweeping the heavens in search of possible comets, the observer catches glimpses of shooting stars on one side of his line of direct vision. So in life our keenest pleasures are not those we seek so earnestly, but side lights upon our pathway, unexpected happenings.

If one lives for pleasure, one does not enjoy life in the degree possible to one who lives for work and finds his pleasure unexpectedly.

Aim or Purpose

The psychology of work includes a definite aim and purpose in life, a purpose so dear to the individual as to sweeten toil and minimize sacrifice.

The great evil of present industrial conditions is that this conscious purpose is for so many limited to the week's wage, that is, the end of effort is expressed in *money*, and the thought of the purpose that money shall serve is too subconscious to be appreciated.

In some way the average wage-earner must be brought to see the end result, namely, a more comfortable, wholesome, and energy-producing life for him and his. If he strives for pleasure only it will elude him. All great men and women have had to struggle with obstacles, to deny themselves in order to gain the goal of their ambition. Let no one think the order of nature has changed in this time. "In the sweat of thy brow thou shalt eat thy daily bread," will hold true as long as the world stands.

It behooves us all to have, early in life, a definite purpose in living, one so strong as to carry us light-footed over all impedi-

ments, one so clearly in mind as to sustain courage in all dark places. Only in this way lies health of body and mind.

The satisfaction in seeing the accomplishment of the task set before one proves the truth of the statement. It is not the mere doing, muscular motions, that causes the healthful glow; it is the mental response, the sense of *effectiveness*, the consciousness of power to do what the mind has willed. To secure a flower from an apparently inaccessible cliff, to row against a strong current, to climb a tall tree; numberless instances will occur to the reader. But also the filling of the wood box, the washing of the dishes, the tidying of the chamber, although given as tasks are bits of work to be *done*, and when *well done* give a glow of satisfaction; therefore this joy of doing should be cultivated in children, a quick response of nerve to the stimulus of the touch of things. *Power to work is man's capital*. Health is wealth only when the will *to do* is also present.

Civilization may be designated as a condition of *wants*. When we civilize a savage nation, we teach the people to want things

they never had or cared to have. It is not the things that are good for them, too often the reverse, but it is the *incentive* to work in order to have more that arouses ambition, stirs dormant faculties, and makes a man or makes a nation out of a horde of inefficient people.

Environment

The free man with no responsibilities and plenty of money may choose his own climate and may follow the seasons if he will, but the greater part of mankind find themselves in fixed habitations, unable to rove.

Climate is not under man's control, therefore he must adapt himself to it. He shows his power over conditions by varying food, clothing, exercise, and housing in accordance with local variations. The savage has worked out for himself a series of unconscious guides. Shall civilized man do less?

It would almost appear that the higher civilization rises the less common sense it shows, the less science it applies to daily affairs. Food suitable for Arctic regions is used by the traveler in torrid zones. Heavy clothing is worn in heated houses,

and work is carried on just as briskly in an excessively hot summer day as in a cool one. A little reflection would convince the intelligent person of the folly of it.

The death rate is being lowered in all cases under state control, but it is rising with a counterbalancing rapidity in the sphere of individual responsibility. The state has not prescribed the menu for public banquets, hours of pleasure, rate of speed of the human machine; the individual is at liberty to drop dead from heart disease, to suffocate in close rooms until the white plague claims him. The state has applied science to engineering problems, drained swamps, cleared out mosquitoes, furnished good water and drainage; but the people do not take advantage of the relief offered, nor will they avail themselves to the full until the foundation is laid in the public schools, until the children imbibe with their three R's this *fourth R*, the fundamental principle of *right living*—the means at hand for mitigating climate when it is too severe for health, the means of improving soil and water supply, for suppressing noise, dust, and for eliminating hurry.

In short, the child at school should become accustomed to the best conditions known to science, and science knows far more than is yet applied in practice.

Although America has not become aroused as Great Britain has to the undoubted fact of tendencies toward physical deterioration, it is on the verge of an awakening. The public school is the natural medium for the spread of better ideals, and if the teachers of cooking and of hygiene would coöperate and use all the material which sanitary science is heaping on the table before them we should soon see a betterment of physical status. Combined with medical inspection and sanitary construction of schoolhouses, this would raise the general health of the community thirty or forty per cent in five years and fifty to seventy per cent in ten years.

The statistics of medical inspection in public schools tell a pitiful tale wherever it has been tried: thirty or forty per cent of the children are found with defective or diseased eyes, ten to twenty per cent with distorted spines, fifteen per cent with throat and nose trouble, all of which directly affect their intellectual proficiency.

When these deficiencies are discovered and reported to the parents, such is the apathy or disbelief that seventy-five per cent of the cases usually go unattended to; therefore the school nurse, who follows the case home and explains the needs and sets forth the penalties, has become a necessity.

Most of the teaching may be by indirect methods, illustrations, and therefore it is that the various facts about foods, cleanliness, dirt, infection, and personal methods in eating, sleeping, exercising, etc., offer such a good medium for the inculcation of *habits* while the child is yet plastic and takes as readily as bad ones the good methods we may present. This is economic, for then he does not have to struggle to unlearn before he can adopt new ways.

We hear much of the need of educating the child for life, but little or nothing of teaching him *to live* so that the life may be worth living. 'Tis true, more is the pity, that this is not recognized by the parent; but if the value of each individual to the state is such as to warrant the spending of ten to fifty dollars a year on each little foreigner born on our shores, it is worth a few

cents more to teach him so to live that he may add to her resources.

It is of use to teach the children of the present school age, so that in turn they may bring up their children in a better way, and so that when they become taxpayers they will see the value of this sort of instruction sufficiently clearly to sustain it.

Therefore the fourth R — right living — may well be included among the necessities of education, although the science is hardly sufficiently advanced as yet to be taught directly.

There is a certain modicum of hygiene already in the schools, but it is not closely enough related to the food habits, or to the ideals and aims of the pupil, to affect the daily life. Give a child an end for which to work, and he will willingly bend his energies to the task.

As was said in the beginning, domestic science teachers have here a great opportunity to show a justification for their work in the elementary schools. It is much easier to teach sanitary as well as moral lessons indirectly but impressively by examples taken from the familiar things of every-day experience.

Laws And this brings up the fact that social conditions, transportation, tenement crowding, police regulations, labor problems, building laws, etc., are only partly under individual control, but they are wholly a matter for regulation by the community, made up of individuals whose consensus of opinion rules.

The greater the number of individuals well informed as to these questions, the easier for a group, large or small, to live up to their best ideals.

Instruction in the use of what may be called large tools of community life should surely find a place in the common school curriculum.

How can unknown laws be obeyed? Why blame the newcomer for ignorance of street cleaning?

What shall the state or city government do and what must we do for ourselves? One of the most serious problems today is for people to see that they pay something for *free* schools and *free* roads, for parks, water works, etc., that these are maintained in order that all may have a better chance to live effective lives. It is now seen that

labor and force may be saved for each farmer who comes in twenty miles over a good road instead of a bad one. Time and the strength of the team are saved, and a greater load is brought to market. Each family using a good city water supply saves time and cost of single wells or cisterns, to say nothing of doctors' bills.

Public improvements make a distinct saving for all the community, of course more abundantly for those who use most freely, but they belong to all. Hence a general responsibility for care and conservation must be developed. It is of first importance to have this appreciated by the taxpayer; responsibility for the homes will follow this education in public affairs.

Legal enactment is one of the best means of educating ignorant, careless citizens, but in order to have them feel that it is for their good, and not a matter of oppression, it is necessary to have a sanitary inspector who can explain the reasons and expound the means of conforming to the laws. In a few enlightened cities, women inspectors are making progress in enforcing better living conditions. If the idea could be started

early in the history of smaller towns, it would do more than anything else to keep the soil and water supply from becoming hopelessly contaminated.

"Scare" is a good thing rightly used, and better food laws and better enforcement of them may be obtained by the publicity given to cases of poisoning, for if we do not care enough about our own laws to make them obeyed, we cannot blame the ignorant foreigner.

As to *food adulterations*, there is knowledge enough today available to give us better materials, and it behooves all teachers of domestic science to familiarize themselves with the publications of their own local board of health, their own state, and of the United States government. Such a volume as that of Mr. Albert E. Leach of the Massachusetts State Food Laboratory should be in every high school library and be freely consulted by the teachers of both chemistry and domestic science.

A large portion of our population live in isolated situations, where each person is a law unto himself. It has been the habit of educators to devote the short terms of the rural

schools to mental gymnastics and intellectual training rather than to lessons in the use of materials at hand for better living, or to lessons in the care of home surroundings. But why should this one-sided education be continued in the face of the knowledge, piling up mountain high, of the danger of living in the midst of one's own waste?

The rural school offers a great field for teaching the principles of better living, since examples of animal and vegetable life abound and space for experiments is at hand.

America must follow England in teaching elementary agricultural art, for instance, a few facts about rock and soil, the properties of clay, sand, and earth with reference to the disposal of refuse, for the farmhouse well is a menace not to be tolerated now that its dangers are known; no elaborate treatise on plumbing to be used, but a few illustrations in the course of a physical geography lesson, such as may be given with a bottomless bottle inverted on a support. A little cotton wool in the neck, or a piece of cheese cloth tied over the mouth, will serve as a support for sand or clay or loam through

which liquids will percolate fast or slowly, according to the nature of both. Mixed with a little dyestuff or ink the water will lose color in passing through some soils, but not when filtered through clean quartz sand. This illustrates the principle of purification of polluted water by passage through a suitable soil and the lack of it if the soil is not suitable.

A few illustrations showing how infection is carried and of the use of disinfectants will save hundreds 'of lives in our rural communities.

It is a curious superstition, this conservatism of the school men in regard to what it is permissible to teach. In the fear of materialism, they go so far as to neglect the resources developed before their very eyes for the promotion of health and efficiency.

If all our schoolhouses were built and cared for as well as the present state of scientific knowledge permits, the efficiency of the children now using them would be raised two hundred per cent in ten years' time. In our zeal for the mind, we have starved and dwarfed the body.

Health An enthusiasm for health must be aroused by some means if an effective human life is to be maintained in the midst of the increasing menaces to its full perfection.

Not only personal knowledge and belief are to be promoted, but a social control is to be maintained. The community as a whole is to work together, to subordinate individual preferences to the general good. Coöperation in sanitary matters is necessary if the expense of decent living is not to become too great to be borne. The greatest municipal and domestic cost is now that of keeping clean. Abundance of water, good drainage, clean streets, good ventilation, sanitary markets, are demanding a larger per cent of income yearly. Probably half the expense might be saved if children were taught to take care of the apparatus in use and to put refuse in the proper receptacles.

The streets are full of litter which should never have reached them, and which costs to sweep up. Half the water is wasted, half the plumbing in houses gets out of order because children and servants throw

rolls of hair, match ends, and the like into the hopper.

It is not necessary to go further into details. Each one can use numerous illustrations to show that much of the increased cost of living is due to carelessness—to the *making* of work.

Responsibility for *things* as well as for the care of one's own person is a needed lesson. If the home does not teach this, the school must, and again we say that in the manual training and domestic science departments this comes naturally and easily, and should be insisted upon.

It is not exalting the material, it is putting it under our feet as a safe foundation upon which to build our own welfare.

It is marvelous, in our eyes, to see the power men have gained over the forces of nature, but it is by patient self-control that they have given us this power.

The moment a user of this power loses a grain of his own *nerve*, things come to grief—a crash of the trolley, an overturn of the automobile.

Some must suffer that the majority may live. Disaster awakens attention, but we

should study conditions and apply the remedy before the disaster.

Man has power to study, to devise new ways of gaining his objects, but he must have a clearly defined object to gain. Genius is power in a single direction, not well balanced, and may exist in an ill-nourished body, but it is not safe for any one of us to twist his nerves in the hope of becoming a genius.

In cities, public opinion for good water, furnishing of safe water to drink in public places, is one of the best evidences of civic improvement.

Every town should secure good plumbing laws, for there is always danger in unseen machinery — pipes once put into a house we are apt to feel secure. I hold that a woman should not shrink from understanding all the machinery of the house. There should be an accessible plan of the pipes and where they go, especially in an old house. All metal is liable to be eaten through, to give way suddenly. The joints are liable to start away. Cracks come if joints are puttied, which they should not be.

We react to environment, hence we must

act upon it to make it satisfactory. Since the future depends upon the children it behooves us to see to it they have a fair chance. Dirt and disease threaten us with deterioration.

Dr. Chadwick, father of sanitation, taught that it was possible to get behind the disease to the causes that led up to it, but still the sanitarian complains that people won't believe. Let us turn to the faith of the child in what he is taught as our hope for the future.

The great struggle lies with matter in the wrong place — garbage, flies, mosquitoes, etc. — and as population becomes denser, with crime and death rate. Our great lessons in the possibility of reform are Panama and Cuba and India. Native religion is the greatest hindrance in many lands. Here it should be the greatest help. Nevertheless, every state in the Union has plague spots as deadly as any a traveler has described.

How can we make the people believe that it lies in their own hands? that a sallow complexion and lack-luster eyes are due to food and not to climate? that list-

lessness and pain are not inherited? Only by adding this fourth R — the art of right living — to the school curriculum and teaching every child the means of making himself an efficient human being.

Adaptation to environment is the great need of the American today; and shall we, who boast that we outdo the world with our mechanical devices, stop short of at least a long step toward the production of a better race?

SUMMARY

Life should yield results; products of work done; of life lived; man should not "cumber" the ground.

The efficient human being lives for himself, for society, for the race.

How he is made effective. Will power is exerted on material things by his well-balanced body and by reason of his sound knowledge. He sleeps, eats, works, plays—all in a wholesome environment. We know that every plant or animal requires this, and man is no exception.

Food, limitations of; danger in excess. Assimilation, not ingestion, the test; auto-infection; sterility of the overfed plant or animal; moral deterioration.

Sleep, need for; habits in to be cultivated.

Exercise, physical need for; dangers in excess. Food must be carried to the living cell and waste removed, ashes shaken from the fire, to permit full nutrition.

Amusements in relation to health. Forget self; exert self unconsciously; permit functions to go on without watching. Companionship, force of example.

Work. Life to be rightly lived requires a personal aim, a resolute purpose, incentive to exertion, to self-culture, to self-sacrifice—all tending to health.

Environment of human life. Climate not under our control, we must adapt our habits to it. Food, clothing, exercise varied to suit; soil and habitations im-

proved by engineering. Social conditions partially under individual, wholly under community, control — labor problems, building laws, crowding in cities, transportation. Care of food, shelter and sanitation, in the main, under personal control. See that they are all right for success in life.

Education in these directions the most important school topic. Right habits should come early. Knowledge to be given to the pupil as fast as substantiated by scientific investigation. Thereby lives are saved, the state is enriched, general happiness is promoted.



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